INTERNATIONAL SEARCH REPORT

tional Application No PCT/JP2004/015179

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L29/78 H01L29/739 H01L29/423 H01L29/06 H01L21/336 H01L21/331 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 7 H01L Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, INSPEC, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages 1.11 US 6 194 741 B1 (KINZER D M ET AL) χ 27 February 2001 (2001-02-27) column 4, line 49 - line 60; figure 6 3-6.8-10,13column 2, line 36 - column 3, line 50; Α figures 1,2 WO 00/70654 A (INFINEON TECHNOLOGIES AG ET 3-6,8,9,AL) 23 November 2000 (2000-11-23) page 7, line 7 - line 18; figure 3 1,11 10 WO 99/52152 A (HITACHI LTD ET AL) 14 October 1999 (1999-10-14) figure 4 1,6 US 2003/160281 A1 (CHEN X) 1,6 28 August 2003 (2003-08-28) paragraph '0025! - paragraph '0036!; figures 2A-2C,3A-3C,5 Further documents are listed in the continuation of box C. Patent family members are listed in annex. . Special categories of cited documents : "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention earlier document but published on or after the International "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-ments, such combination being obvious to a person skilled document referring to an oral disclosure, use, exhibition or other means document published prior to the International filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 8 June 2005 17/06/2005 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016 Morvan, D

INTERNATIONAL SEARCH REPORT Information on patent family members

Ir Ional Application No
PCT/JP2004/015179

| Patent document cited in search report | | Publication date | Patent family member(s) | | Publication date | |
|--|--------|---------------------|----------------------------|--|---------------------|--|
| US 6194741 | B1 | 27-02-2001 | NONE | | | |
| WO 0070654 | A | 23-11-2000 | DE WO EP JP US | 19922187 0070654 1181712 2003500826 2002079535 | A2 A2 T | 23-11-2000 23-11-2000 27-02-2002 07-01-2003 27-06-2002 |
| WO 9952152 | A | 14-10-1999 | JP WO | 11297994 9952152 | • • | 29-10-1999 14-10-1999 |
| US 20031602 | 281 A1 | 28-08-2003 | CN US US | 1102274 6635906 2005035406 | B1 ' | 03-05-1995 21-10-2003 17-02-2005 |